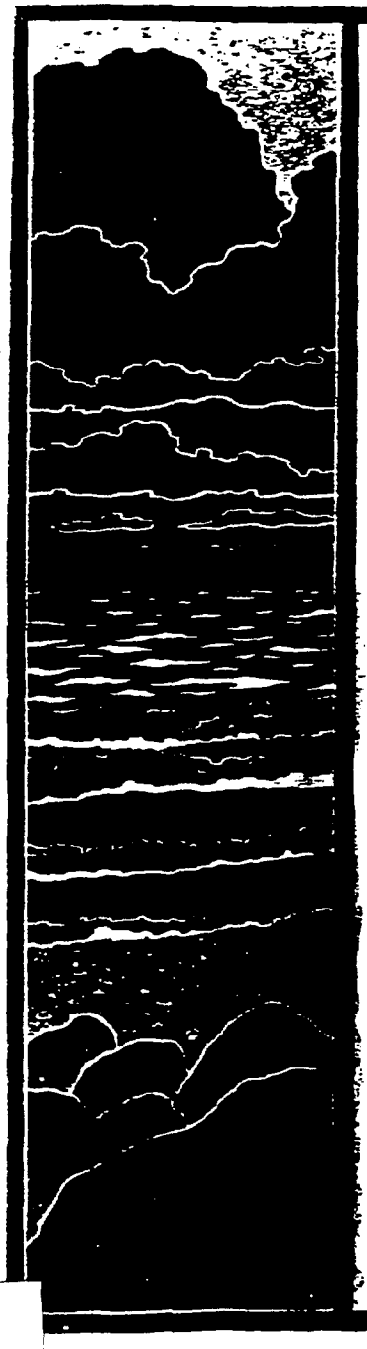

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Assessing Networked Coastal Zone Management Programs

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Abstract *During the early development of the national coastal zone management program there was no federal prescription with regard to how coastal states should proceed in establishing their programs institutionally. At one end of the spectrum was the California model—a new coastal "superagency" with power not only to plan, but to regulate development. At the other end of the spectrum was an approach which relied on existing agencies and authorities and improved policy development and coordination; this approach was described as "networking."*

Many coastal advocacy groups, academics, and bureaucrats viewed the networked model with skepticism. With more than a decade of experience, we here review and critique the efficacy of this approach to coastal management. Lessons learned from experimentation with networked coastal management programs may provide important lessons for other regional land and water resources management efforts.

Keywords: coastal zone management; institution; network

Introduction

In enacting the 1972 Coastal Zone Management Act (CZMA), Congress acknowledged that the existing institutional arrangements for managing these regional environmental and economic systems were inadequate. As noted in the act, "the key to more effective protection and use of the land and water resources of the coastal zone is to encourage the states" to assume their full authority for natural resources management and development control, in cooperation with federal and local governments and other affected interests. For their part, the states viewed the federal program as a means to advance programs already dealing with coastal management elements, or to apply federal funding to fledgling state efforts.

Prior to amendments to the federal law in 1976 and 1980, the Coastal Zone Management Act was process-oriented, as opposed to providing very specific substantive policy direction. There has never been a federal prescription with regard to how coastal states

should proceed in establishing their programs and management structures institutionally. At one end of the "institutional arrangements spectrum" was the California model. In 1972, California created a new "superagency"—the California Coastal Commission—with sweeping comprehensive authority not only to plan, but to regulate development (Fischer, 1985; Healy and Rosenberg, 1979; Hildreth and Johnson, 1985; Hill, 1982). This new entity captured programs and responsibilities located elsewhere in state and local government, and with its broad scope of authority for planning and management, it emerged as a powerful, largely centralized (in spite of six regional counterparts) management agency. In short, the California model represented an institutional solution to the problems of fragmentation and dispersion of land and water management authority.[1] Some states, such as North Carolina, followed this approach (Owens, 1985). At the other end of the spectrum was an approach which relied on existing agencies and authorities and improved policy development and coordination to achieve coastal management objectives. This approach—perceived as "soft" by some observers—was described, albeit rather loosely, as *networking*. Several states, including the cases presented herein, generally followed this approach.

This classification scheme, of course, is somewhat artificial. Some degree of networking is inherent in all regional resource management programs. No single governmental entity controls everything, and therefore coordination with other programs and levels of government is a necessity. Thus even programs like California's rely extensively on interagency and intergovernmental coordination.

There have been some preliminary efforts to assess the progress and effectiveness of the national Coastal Zone Management (CZM) Program (Brower and Carol, 1984; Coastal States Organization, 1985; *J. Amer. Planning Association*, 1985; Miller, 1983; OCZM, 1979; U.S. GAO, 1976, 1980, 1986), a few reviews and evaluations of multistate regional accomplishments of CZM (Great Lakes Basin Commission, 1979; Hildreth and Johnson, 1985), and numerous descriptions and assessments of various state programs (for example, Heikoff, 1977; OCZM Section 312 Evaluations; Owens, 1985). There appears to be little analysis, however, to discern *whether the institutional context —the organizational entities and the rules—has influenced the relative success of state coastal management programs*. Given the controversy about organizational form and management structures during the early life of the national CZM program, and the skepticism with which many coastal advocacy groups, industry associations, academics, and bureaucrats viewed the networked model for state coastal management programs, we believe it is timely to review—after more than a decade of experience—this approach to coastal management. Our effort is necessarily exploratory and subjective. Our intent is twofold: one, to develop a relatively simple assessment scheme; and two, to apply the methodology in evaluating whether organizational form has been an obstacle to the success of state coastal programs. Our focus is on assessing networked programs, not on the efficacy of networked vs. centralized programs. We enter into this assessment with some trepidation, recognizing the great number of environmental, political, and contextual variables which are difficult to normalize and which mask the effects of the single variable of management structure (Craine, 1971; Heikoff, 1977).

We believe the subject is important not only to coastal zone management but to all U.S. natural resources management initiatives. In the broadest sense the question is how to achieve the goals of integrated resource management within a heterogeneous institutional structure. The establishment of powerful regional institutions—unified administrative entities with relatively comprehensive functional responsibilities and a broad scope of implementation powers (like the California Coastal Commission, the Tennessee

Valley Authority, the Adirondack Park Agency, and the Twin Cities Metropolitan Council)—as responses to regional environmental and developmental problems tends to be a political rare event in the United States (Derthick, 1974). Therefore, lessons learned from experimentation with networked coastal management programs may provide more general guidance for designing politically acceptable and viable institutional arrangements for other regional land, water, and development management efforts.[2]

Study Approach

The Networking Concept

Networking has many connotations. It was originally conceived by the Federal Office of Coastal Zone Management (OCZM) as a way for states which already had substantial control over coastal activities and areas to somehow bind their coastal policies into the existing network of management controls; i.e., states could meet the federal requirements for program approval by interconnecting existing state statutes and policies (Lowry, 1985; Matuszeski, 1985). More states could thus pursue program approval by demonstrating that they had general state authority over resources and uses identified in the Federal act. In a draft "threshold paper" to guide states on organizational arrangements (OCZM, ca. 1976), OCZM acknowledged that several state agencies—a designated "lead agency" notwithstanding—will be involved in coastal program implementation, and that therefore a "network" or linkage between and among the relevant organizations would be a requirement for program approval. OCZM noted that organizational networking could take a number of forms, identifying legislation, executive orders, planning and coordination mechanisms, and interagency agreements among the possible means. The present operating definition of networking used by the Office of Coastal Resources Management (OCRM)—OCZM's successor—suggests a program characterized by the separation of policy, planning, and enforcement functions and authorities among state agencies or between state and local governments (McCleod, telephone interview, 1986).

For purposes of this study, a networked program has the following attributes:

(1) The program emphasizes making preexisting authorities work better and in a more coordinated manner;
(2) The designated "lead agency" has broad policy formulation and coordination responsibilities and a horizontal orientation, i.e., is concerned with cross-cutting issues and functions, in contrast to a vertically-oriented line agency organized around a comparatively narrow mission;
(3) The "lead agency" tends to be an Executive Department staff agency vs. an operating agency;
(4) The "lead agency" relies significantly on other state agencies and/or local governments, i.e., program management is dispersed, especially regarding regulatory powers, and there is no unified program administration.

Case Selection Considerations

Because of the exploratory nature of this assessment, we elected to limit the number of states in our analysis. We screened state programs using the above characteristics of networked programs, relying initially on program literature and personal contacts at state and federal levels. We further reduced the pool of state programs by attempting to get a

representative sample of coastal programs in terms of geography and coastal problems and issues. Sufficient program history and experience from which to draw conclusions and availability of information further limited the sample. Finally, programs that had undergone substantial organizational shifts and were being conducted in a very complex institutional and political environment (e.g., Florida) were eliminated based on the premise that such factors would obscure the focal points of this study. Based on these considerations, Maine, Massachusetts, Oregon, and Wisconsin were selected as case networked programs useful for testing our methodology and for preliminary assessment of the efficacy of the networked approach to coastal zone management. While the limited number of cases may raise questions regarding the representativeness of the sample, we believe it adequate for these purposes.

Methods and Sources of Information

Information for this study was obtained from both written and interview sources. Literature reviewed for each case state included formal journal and other published articles, national summary documents, final environmental impact statements for each state program, OCZM Section 312 evaluations, state program publications and reports, and selected press coverage. Approximately twenty telephone and personal interviews were conducted in each state.[3] Interviewees in each state were chosen to represent various perspectives: lead agency staff and program managers; staff and managers from cooperating state agencies, commissions, and departments; planners from regional commissions and local governments; local elected officials; citizen influentials involved with the coastal program; representatives of development-oriented interests (utilities, chambers of commerce, port officials, industry and real estate spokespersons) and organized environmental interests; and OCRM program staff. For both program clarification and assessment purposes, a relatively open-ended set of questions attempted to elicit perceptions of major accomplishments/failures of the program, strengths/shortcomings, perceived reasons for program success or lack thereof, and level of program/management structure awareness. The limitations of so constrained a set of views and biases are obvious, and we have tried to incorporate such information with caution.

Evaluation Criteria

Problems of attribution (did the coastal management program cause an observed effect? to what extent was it responsible?) and measurement (what to measure? how?) pervade institutional evaluation (see Ingram and others, 1984). Given the flexibility accorded the states, no uniform data was required of states for evaluative purposes. Like an earlier assessment of the national CZM program (OCZM, 1979), we believe that the degree of goal attainment is one appropriate indicator of program accomplishment, as measured by substantive coastal outcomes and desired institutional changes. Substantive outcomes include such tangible results as increased access, added protection for critical coastal resources, enhanced recreational opportunities, urban waterfront revitalization, improved port facilities, etc. Institutional changes include legislative and policy improvements, budgetary commitments of state resources for coastal management, organizational and procedural changes, and increased opportunities for meaningful public participation. The degree to which desired change occurred (program success) must be measured within the context of unique constraints and obstacles to effective implementation which exist in a

particular state (Goetze, 1981; Mazmanian and Sabatier, 1981). For example, no meaningful assessment of progress under the Maine coastal program could be made without consideration of the very strong "home rule" tradition of local governments in the state, or in the Oregon program without consideration of the difficult fiscal and economic conditions prevailing there in recent years and the implications for expeditious implementation of certain resource-protection elements of that program.

A final consideration in our assessment of state programs relates to constituency satisfaction. To what degree is there correspondence between institutional actions and their outcomes and the preferences of coastal management constituents? (See Goetze, 1981, for elaboration of this issue.) The "constituency" for state coastal management programs is heterogeneous and diverse, and could be construed to include all residents within the coastal zone, as well as all parties with an interest or stake in coastal management. Accordingly, we did not seek or expect wholesale endorsements or indictments of state programs; after all, one interest's regulatory burden is another's protective insurance. Instead, we tried to garner a sense of the degree of program satisfaction from an array of "constituents" including their awareness and knowledge of the state coastal program, their views of major accomplishments and failures, and their opinions about the overall functioning of the program.

Program Descriptions

The four networked programs selected are summarized in Table 1. This summary describes the programs as documented in the final Environmental Impact Statements and approved by the Department of Commerce. Changes have since occurred in all the programs. Wisconsin, for example, no longer has a Citizen Advisory Committee, and the Office of Coastal Zone Management in Massachusetts is now established by legislation. Our purpose is to measure effectiveness of networked programs using such change as one measure of effectiveness. The original programs are therefore provided as a point of reference. Table 1 allows a general comparison of programs. A few supplemental notes are in order to better understand some of the distinguishing characteristics of programs.

The Oregon program differs from the other three in that the policy-making body, the Land Conservation and Development Commission (LCDC), is an independent commission; members are appointed for staggered fixed terms, thereby providing it with some degree of autonomy from the Governor. (The Director of the Department of Land Conservation and Development, the lead agency and administrative arm of the Commission, serves at the pleasure of the Commission.) Secondly, LCDC has very specific statutory authority for the development of *statewide* land and water goals and for the approval of local comprehensive coordinated plans (CCPs). State policies clearly prescribe the control of local comprehensive plans, somewhat similar to the California program. The coastal program is set within this larger land use planning scheme. Like all networked programs, Oregon relies on other state authorities vested in twelve separate state agencies for implementation (Oregon FEIS, 1977). The councils in the other three states are all advisory with regard to coastal policy, coordination, and program implementation.

The Massachusetts program, unlike the other three, has a management structure akin to an environmental superagency (Haskell and Price, 1973). The designated lead agency is the Office of Coastal Zone Management, a unit within the Office of the Secretary of Environmental Affairs. The Environmental Affairs secretariat, a cabinet office, provides for uniform administrative oversight and coordination of the state's four primary oper-

Table 1
Summary of Four Networked Coastal Management Programs

	MAINE	MASSACHUSETTS
Lead Agency, Council, Citizen Input	State Planning Office, Maine Executive Department	Coastal Zone Management Office, Executive Office of Environmental Affairs (EOEA)
	Governor's Coastal Advisory Committee. Membership represents the general public, the legislature, regional planning commissions, the University of Maine and state agencies.	Coastal Resources Advisory Board (CRAB) appointed by the Governor, representing a broad array of citizen interests.
	Regional planning commissions responsible for coordination of citizen participation.	Regional Citizen Advisory Councils
Policy/Legal Base, Major Implementing Agencies, Coordination Instruments	Thirteen core laws address water quality standards; activities on tidal lands; local shoreland zoning; land use planning in unorganized areas, subdivision standards, site location for large projects, air and water quality standards, solid waste disposal standards, stream alteration, oil transport and spills, and renewable marine resources.	Thirty-eight distinct policies in seven general areas of concern. These policies address: protection of coastal wetlands, air and water quality, hazard areas, sand and gravel mining, urban waterfronts, coastal recreation, energy facilities, commercial fisheries, offshore oil, waste discharges, historic resources, and visual access.
	Dept. of Environmental Protection Dept. of Marine Resources Dept. of Transportation Land Use Regulation Commission, Dept. of Conservation Towns	EOEA Departments Environmental Quality and Engineering Environmental Management Metropolitan District Commission Fisheries, Wildlife, and Recreation Vehicles Food and Agriculture Energy Facilities Siting Council Martha's Vineyard Commission
	Executive Order and MOAs	Executive Order and MOAs
Background, Approval, Approximate Annual Funding	1969 Exec. Order: cooperation to resolve coastal conflicts 1970 Siting Law 1970 Petroleum Act 1971 Mandatory Shoreland Zoning	1975 Creation of the Executive Office of Environmental Affairs (EOEA)
	September 1978	April 1978
	Federal $1,700,000 State $ 422,000	Federal $1,200,000 State $ 307,000

Table 1 (Continued)

	OREGON	WISCONSIN
Lead Agency, Council, Citizen Input	Department of Land Conservation and Development	Coastal Management Program, Department of Administration
	Land Conservation and Development Commission (LCDC), appointed by the Governor, consisting of citizen members from each legislative district. Oversight of compliance with land use goals.	Coastal Management Council (CMC) appointed by the Governor. Comprises leadership from state agencies, local governments, tribal governments, the University of Wisconsin.
	Involvement in preparation of local plans. Statewide citizen interest groups.	Citizen Advisory Committee representing coastal interests.
Policy/Legal Base, Major Implementing Agencies, Coordination Instruments	Nineteen statewide land use goals with four specific coastal goals addressing estuarine resources, coastal shorelands, beaches and dunes, and ocean resources. Over 20 laws implemented by 12 state agencies. Counties and cities required to prepare plans consistent with goals for acknowledgement by LCDC.	Thirty-three laws address water and air quality, coastal natural areas, wildlife habitat, fisheries management, flood plain zoning, solid waste disposal, mandatory county shoreland zoning, water access in subdivisions, dredge and fill from lake beds, farm land preservation, energy facility siting, planning coordination and state-local cooperation.
	Division of State Lands Dept. of Energy Dept. of Forestry Dept. of Environmental Quality Dept. of Geology and Mineral Industries Dept. of Fish and Wildlife Counties and cities	Dept. of Natural Resources Dept. of Transportation Dept. of Local Affairs and Development Public Service Commission Counties
	Statutory and MOAs	Executive Order and MOAs
Background Approval, Approximate Annual Funding	1967 Beach Bill enacted 1971 OCCDC established 1973 Land Use Bill enacted	1966 Mandatory shoreland zoning
	May 1977	May 1978
	Federal $1,050,000 State $ 325,000	Federal $1,275,000 State $ 485,000

ating environmental agencies as well as the Department of Food and Agriculture. To gain a fully comprehensive coastal program, memoranda of agreement (MOA) with line agencies, both inside and outside this secretariat, were necessary (Massachusetts FEIS, 1977).

Wisconsin and Maine represent the purest networked forms, relying on a state planning unit within the governor's executive management agency for program management and implementation. These entities had the least direct implementation authority of our case examples.

All four of the programs work with local units of government by providing technical assistance, information, or grants. Each utilizes some form of regional (substate) administrative/planning arrangement to bridge the gap between state and local government. Maine, Oregon, and Wisconsin additionally rely on local authorities to carry out their programs, including mandatory shoreland zoning, subdivision review, or enforcement of local plans.

Findings

We pursued three general areas of inquiry in this analysis: (1) Did the coastal program precipitate institutional change? (policy, organization, budget and/or process); (2) Did the coastal program precipitate changes in land and water uses? (patterns of use and/or resource protection); and (3) Did the coastal program satisfy its constituents? By inquiring into both institutional change and change in uses we address both the means and the end results. For this summary review, brief examples are used to illustrate the broad array of accomplishments in all four of the state programs reviewed.

Institutional Change

At this stage in the evolution of coastal zone management, we expected and found far greater institutional change than changes in development patterns and resource use. All four programs demonstrate change; new policies are being made, budgets are being realigned, organizations revised and processes improved. Clearly networked coastal management programs are not obstacles to institutional reform.

We find major coastal resource policy change, stimulated by the coastal programs, in all case states. The following examples are illustrative. In Massachusetts, staff work of the MCZM led to a 1980 Governor's Executive Order to increase protection of the state's barrier beaches, including priority acquisition of barrier beaches, limitations on sewer and water extensions, exclusion of water supply and sewerage treatment facilities, and limitations on funding of projects which would encourage growth and development. The knowledge and experience gained in Massachusetts was subsequently applied in passing the federal Coastal Barrier Resources Act of 1982. Another significant policy change in Massachusetts is the 1983 amendments to the Tidelands Act. These amendments require that private development in certain coastal areas proceed only if public benefits are derived—a precursor to expanded public use of the coast. Another example of providing a statutory base for coastal policy is Maine's 1986 Act to Enhance the Sound Use and Management of Maine's Coastal Resources. This act legislatively established nine policy goals based largely on objectives previously developed by Maine's Committee on Coastal Conservation and Development.

Wisconsin Coastal Management Program (WCMP) staff research in 1981 indicated

that western water shortages, coal slurry pipelines and other possible diversions were emerging issues not only in Wisconsin, but in all the Great Lakes states and provinces. Through the governor and the newly-formed Council of Great Lakes Governors, the issue was brought before states and provinces adjacent to the Lakes, resulting in the signing of a "Charter of Principles" in January 1985. The eight governors and two premiers agreed to act in concert on water quantity matters and initiated a number of technical activities to facilitate mutually beneficial practices (Great Lakes Governors Task Force report, 1985). State legislation in Wisconsin was passed in 1985, with support of staff work in the WCMP and the state's Department of Natural Resources, giving the state, for the first time, the approach and requisite authority for water quantity management.

Oregon's Division of State Lands (DSL) adopted administrative rules for estuarine mitigation in 1984, following agreement of three state agencies (Department of Energy, DLCD, and DSL) to coordinate estuarine mitigation banking. The interagency coordination and the development of the necessary legal framework to allow mitigation banks, to provide methods for assigning mitigation credits, and to provide loan funds for the actual mitigation evolved through three years of financial support and coordination from the OCMP.

Wisconsin state law on dredge disposal has been interpreted to preclude the disposal of clean dredged material in the open waters of the state. The resultant impact is an inability to use clean materials for beneficial purposes, such as beach nourishment, and increased costs to local governments who are responsible for disposal. A WCMP-initiated interagency task force, extensive staff research and two multiyear in-water demonstration projects with detailed monitoring have led to a reassessment of the state disposal policy and the preparation of a bill for legislative consideration.

Some policy changes take years. In the mid 1970s, the levels of the Great Lakes were extremely high, causing extensive shore erosion, damage to shore properties, and even the loss of residences. The Corps of Engineers estimated damages in Wisconsin on the order of $16 million. Over a three-year period, the WCMP initiated extensive field work, geotechnical studies, engineering analyses, evaluations of alternative policies, and development of model shore protection ordinances. By the time this work was completed, lake levels had declined and the public concern diminished. In spite of major WCMP efforts, there was little in the way of immediate demonstrable accomplishments. In 1986, Great Lakes water levels exceeded all previously recorded levels; high levels continued in 1987. A flurry of activity resulted throughout the Great Lakes states and provinces. Wisconsin coastal legislators were vying for introduction of shore erosion legislation. The vast amount of sound technical work and policy analysis, now separated from its genesis by ten years, was "dusted off." With little recognition that it was a Wisconsin Coastal Management Program product, this work is underpinning current policy action.

Policy change is often manifested in state budgets through the commitment of additional state fiscal resources. In 1979, the Maine Coastal Program (MeCP), along with the governor's office, began developing policy initiatives for coastal development. The maintenance of fishing piers emerged as one major policy, giving rise to follow-up budgetary change. Research by Maine's coastal program staff on maintenance of fishing piers led to a $10 million bond issue to repair or renovate seven coastal piers. In the early 1980s Bath Iron Works (BIW), Portland, began planning a major new facility in Boston. MeCP and the City of Portland ultimately convinced BIW to remain in Maine, coordinated state and federal permits and supported various studies instrumental in completing the port development project. Maine voters approved a $15 million bond issue for the BIW project, resulting in an estimated 1,000 additional jobs in the Portland area. MeCP

played a similar role in the industrial park/port facility development at Searsport. Staff studies of development cost, cost/benefit studies, and preliminary plans helped to facilitate this project. Again voters approved a $13 million bond issue to aid in the construction of the facility (Keeley, telephone interview, 1987).

The Massachusetts legislature authorized an $18 million bond issue in 1983 and established the Coastal Facilities Improvement Program in the MCZM. The program reimburses coastal communities for up to 50 percent of total project cost to plan, construct, maintain, and improve public coastal facilities. In January, 1985, grants totalling $8 million were provided to nineteen communities; nine communities received over $500,000 (MCZM Review, 1985).

A program to maintain Wisconsin's commercial ports, the Harbor Assistance Program, was authorized in the late 1970s, providing the Department of Transportation $1 million a year in state funds and an additional $1 million in bonding authority to assist local governments in renovating and maintaining commercial port facilities. Substantial input to this legislation came from studies done by the WCMP prior to federal program approval, under section 305.

Organizational changes stimulated by coastal programs are significant. In Massachusetts, forty-one cities surround the Boston Harbor with a common sewerage service provided by the Metropolitan Development Commission since the 1940s. A governor's committee on Boston Harbor Water Quality and a lawsuit initiated by the City of Quincy precipitated the creation of the Massachusetts Water Resources Authority in 1983. Harbor clean-up began under a schedule developed by a court-appointed special master with over 100 tasks scheduled in 1987. MCZM staffed the committee and worked with the legislature to create the new authority. These efforts not only led to organizational change, but also helped leverage several million dollars of new state and federal funding for habor clean-up; the Massachusetts legislature authorized $35 million for fiscal 1985.

In Wisconsin, a Waterways Commission with bonding authority to aid communities in the development of public water recreation facilities was created. New regulatory staff for Great Lakes shoreland management were added to the Water Regulation and Zoning program. Staff for a new Great Lakes water management unit represent further Wisconsin organizational change influenced by WCMP efforts. Massachusetts reports additional staff for its Wetlands Protection Program in 1978 and, most significantly, the legislative establishment of its Office of Coastal Management in 1983.

All states report procedural changes, best illustrated by the processing of permits with the Corps of Engineers and exemplified by Oregon's monthly State Water Interagency Meetings (SWIM), established to share information between state and federal permitting agencies. Representatives of the Corps of Engineers, U.S. Fish and Wildlife Service, National Marine Fisheries Service, the Oregon Department of Fish and Wildlife, DLCD, and DSL are regular participants. Similar efforts exist in the other three states.

Changes in Land and Water Uses

The results of these reforms are beginning to be visible through protected wetlands and barrier beaches, management of hazard areas, and renewed ports and urban waterfronts. It is likely that these changes will be more evident ten years hence. The following examples represent successful on-the-ground outcomes associated with development and land and water uses.

Maine's Departments of Marine Resources and Environmental Protection, with sup-

port from the MeCP, began in 1981 to clean up economically important shellfish-producing waters along its 4,000 miles of coast (the 1980 harvest value of Maine clams was $8.5 million). Over 3,000 discharges were identified, affecting 12,000 acres or 30 percent of Maine's clam resources. The abatement program was based on a precise monitoring program and, where necessary, enforcement action. The benefits of this program are suggested in one small area of the Maine coast, the Harpswell area, by comparing $1,000 in abatement costs with a $37,000 increase in shellfish harvest.

In association with the Coastal Barrier Beaches Executive Order noted earlier, the MCZM worked with the Federal Emergency Management Agency to purchase storm-damaged properties from willing owners and transferred them to state and local governments for recreational purposes under a provision of the National Flood Insurance Program.

All of Wisconsin's Great Lakes communities have undertaken some sort of waterfront renewal program since 1978. The role of the WCMP in each of these has varied but has included technical assistance through regional planning commissions and grants for data collection, plan development, market studies, and construction of piers and walkways through Coastal Energy Impact Program (CEIP) funds. The City of Washburn (population 2,000) is an outstanding example. Aided by the WCMP-funded staff of the regional planning commission and various WCMP grants, the city developed and built a $4 million waterfront—including a marina, restaurant, motel, boat repair facility, dry storage, and condominiums. In the City of Port Washington, the WCMP funded a land use plan required by the Corps of Engineers prior to construction of a new recreational marina. Coastal funds provided for the acquisition of technical data necessary for the City of Superior to proceed with construction of a marina/motel complex. Superior also built a public picnic area and four fishing piers (CEIP funds). In Racine, a grant to conduct a wave run-up test of a breakwater model saved the city about one million dollars in unnecessary construction costs. In Kewaunee, a WCMP-funded waterfront plan has led to extensive renovation, increased public facilities, two new marinas, a motel, and a restaurant, and additional improvements are planned.

The Wisconsin work with which we have personal familiarity is typical of work done "behind the scenes" in support of coastal communities in the other states. Maine reports similar support to seventeen community waterfront projects, Massachusetts well over twenty. In Oregon, because of OCMP, the thirty-four coastal comprehensive plans were fast-tracked and completed two years ahead of the remainder of the state, establishing the framework for subsequent development activities (Ross, 1987; for additional discussion of the Oregon Land Use program and its impact on land use patterns, see O'Sullivan, 1986).

Constituent Satisfaction

Despite differences in organization or program emphasis, several common threads appeared among the four programs when constituents were asked their opinions of coastal program successes and problems. There is general recognition in all states that coastal programs have been instrumental in improving and/or streamlining permitting processes. Oregon is typical—local officials, as well as developers, describe the project application process as "acceptable and fairly quick." In all four cases, line agency "constituents" questioned the role of the coastal management programs in trying to influence line agency functions. Some recognize that the programs have helped them achieve agency

objectives, but then suggest that the program would be better housed in their agency! In Oregon, agency representatives questioned DLCD's role as an "umbrella" agency when they "are supposed to be a sister agency." "Poor enforcement" was a uniform comment in all states, but most pronounced in Maine, a strong home-rule state. Negative perceptions about diminished public participation after initial program implementation were common to all states but Massachusetts. Comments from special interest groups were for the most part predictable. Regulations were viewed as "too tough" by some developers and "too soft" by some environmentalists. Several commented that states were not addressing the big long-term coastal issue of cumulative impacts of development.

The most frequent response was that these "programs lack visibility." Even the Massachusetts program with its relatively high public exposure was considered by several interviewees to need greater visibility to be successful. In summary, constituents' comments reflect the nature of these lower-profile networked approaches where implementation is largely carried out by others than the lead coastal management agency.

Conclusions and Implications

This study represents a preliminary attempt, using state coastal management programs, to ascertain whether the networking of existing institutions can be a viable means to address resource management issues. Each of the four programs reviewed here can point to significant accomplishments in improved public policies and governmental processes. Each has made substantial progress towards meeting their coastal management goals. These achievements are linked more or less directly to the existence of the coastal management program, increased state and local coastal activities and focus, enhanced coastal issue awareness and support, strengthened coastal staff capacities, and new funding. Clearly state decisions to pursue coastal zone management via a networked program, largely reliant on the extant institutional framework, have not prevented these accomplishments. In short, networked programs have generally been successful in bringing added resources to bear in addressing coastal management issues.

Networked programs, in their efforts to be more comprehensive, however, encounter more difficulties in implementation and attribution.

- Networked programs, more oriented to the setting of public policy or improvement of processes, are frequently separated from the implementation of such policies and procedures by line agencies with narrower program responsibilities or by local governments; this often makes their contributions invisible.
- The degree of program success appears to reflect the support, recognition and commitment of the governor and/or legislative leadership.
- Line agencies sometimes question the role of the more comprehensive networked coastal management program in matters deemed to be proprietary. Achieving coordination among state agencies—especially with regard to permitting decisions consistent with coastal plans and policies—is difficult.
- Networked programs relying on coordinated arrangements imply credit-sharing among participants; success is often credited to entities within the network as distinct from the coastal program itself.
- Much "behind the scenes" work of the lead agency is commonly unrecognizable.

While these problems are not unique to networked programs, it is clear that networked programs must give special consideration to (1) their relationship with the political leadership, and (2) their constituencies. The unrecognizable "behind-the-scenes" activities make the program vulnerable to political attack and thus the need for strong support from key elected officials. Programs tied to this political leadership are, however, vulnerable with changes in leadership. This shortcoming may be an asset in disguise—political accountability can lead to a program that is responsive to changing issues, priorities, and fiscal realities—therefore, a more robust and durable program. Our case examples illustrate this situation, although it is too early to draw conclusions regarding long-term sustainability and survival.

Success in implementing networked programs seems to demand special public participation and constituency development efforts. It is difficult to sustain strong public involvement throughout the life of a broadly-focused vs. single-interest program. Public constituencies may be well-versed and able to respond to individual laws, in contrast to overall coastal management programs. Given this, it is not surprising that networked programs with their maze of laws are not perceived by the citizenry as the instruments of change. This problem is exacerbated for the public by the inadequate tracking and documentation of program accomplishments. In our study cases, where strong public involvement efforts were curtailed, program identity and support suffered.

One question not addressed in our study and a fertile area for further research is the comparative resiliency of networked programs vs. more centralized resource management programs during a period of growing federal fiscal austerity. Reductions in federal support for coastal zone management during the 1980s, initiated with the advent of the Reagan administration, placed additional burdens on states to sustain viable programs. How did the institutional arrangements affect the state's ability to continue to address a growing number of coastal resource management issues? As the country continues to wrestle with its budget deficit, such an evaluation will have application not only to coastal zone management but to other resource management programs as well.

In conclusion, we believe that the experience with networked coastal management programs provides some insights and guidance for addressing other major regional resource management and development problems. In the United States there is (1) a general political unwillingness to establish unified regional planning and management entities with strong implementation powers which usurp authority from existing institutional actors, and (2) great difficulty in sustaining such arrangements in those comparatively few circumstances where they now exist (e.g., see Fischer, 1985, regarding the uncertain long-term future of the California Coastal Commission). Networking existing units, laws, and programs to accomplish more comprehensive objectives, i.e., changing the behavior and activities of established agencies and local governments, not only may be a more politically acceptable way, but often the only realistic opportunity for undertaking such management challenges through public institutions.

Notes

1. Although the California program provided for returning permitting authority to local governments upon completion of approved local plans, the early phases of the program typify the "hard" centralized approach.

2. An anlogous debate has gone on for years regarding the most effective and efficient institutional arrangements for managing river basins; for further information, the interested reader is referred to Wandschneider, 1984; Wengert, 1981; White, 1957.

3. Interviews were conducted by teams of graduate students in a University of Wisconsin-Mad-

ison "Water Resources Policies and Institutions" seminar; the authors appreciate the additional research assistance of Ms. D. DeLuca.

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